INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN
METAL CLEANING BASIN
POWERTON STATION
OCTOBER 2026

This inflow design flood control system plan has been prepared for the Metal Cleaning Basin (MCB) at Powerton Station in Pekin, Illinois (the Station). The purpose of this project is to prepare the inflow design flood control system plan by a licensed professional engineer to ensure that the design, construction, operation, and maintenance of the coal combustion residuals (CCR) unit is consistent with recognized and generally accepted good engineering standards. This plan has been prepared pursuant with Title 35 of the Illinois Administrative Code (35 IAC) Section 845.510.

Civil & Environmental Consultants, Inc. (CEC) completed the following scope of services in preparing this annual inspection report:

- Performed the annual CCR impoundment inspection in accordance with the requirements of 35 IAC Section 845.540 and Title 40 of the Code of Federal Regulations (40 CFR) Section 257.83.

- Reviewed the previous inflow design flood control system plans for the MCB, including information pertaining to the following:

    - Inputs and assumptions used to determine whether the impoundment can manage the inflow design flood;
    - Methodology used to determine whether the impoundment can manage the inflow design flood;
    - Assessed potential changes to the design inputs used in the hydrologic and hydraulic assessments completed for the impoundment; and
    - Reviewed and assessed the results of the hydrologic and hydraulic calculations performed to support the conclusion of whether the impoundment meets the hydrologic and hydraulic requirements for CCR surface impoundments promulgated by both 35 IAC Section 845.510 and 40 CFR Section 257.82.

1.0 SITE DESCRIPTION

The MCB is located at the Station in Pekin, Illinois situated northeast of the Main Power Building, south of the Wastewater Building and between the Ash Surge Basin and former Cooling Water Intake Canal. Measuring 450 feet long and 225 feet wide, approximately 2.3 acres in size, the MCB is lined with a 60 mil high-density polyethylene (HDPE) liner. Gravel access roads are located along the north, east, and west sides.

The MCB was constructed in the 1970s, lined with its existing HDPE liner in 2011, and has not undergone significant changes in geometry. The original operation was designed to receive bottom ash and, twice a year, boiler wash via sluicing with wastewater treated in the wastewater treatment plant. Operation of the MCB has changed to also receive bottom ash and fly ash from street sweeping and silo maintenance by end dumping. Wastewater and accumulated stormwater is periodically pumped from the MCB, treated to remove elevated metal concentrations and total suspended solids, and discharged into the Ash Bypass Basin.

2.0 INPUTS

2.1 Inflow Design Flood Control System

The inflow design flood control system plan for the MCB is documented in the previous inflow design flood control system plan, which was prepared by Sargent and Lundy in 2022 and 2025. There have been no significant changes to the inflow design flood control system since the previous inflow design flood control system plan.

2.2 Inflow Design Flood Event

The MCB is classified as a Class 2 CCR surface impoundment pursuant to 35 IAC Section 845.440(a)(1). The inflow design flood event used in the 2022 and subsequent annual hydrologic and hydraulic assessments were based on the 1,000-year storm. The precipitation depth for the 1,000-year, twenty-four-hour storm event is 9.00 inches, unchanged from the previous assessments.

2.3 Site Topography

The topography of and areas surrounding the MCB has remained unchanged from the previous plans.

2.4 Aerial Images

Other than removal of CCRs from the MCB, aerial images of the Station and the areas surrounding the MCB show the site has remained relatively unchanged since the initial assessment.

2.5 Ash Pond Condition

The operating and physical conditions of the MCB is based on discussions with Station personnel and observations from the 2026 annual inspection. The MCB receive bottom ash and fly ash from street sweeping and silo maintenance by end dumping. Wastewater and stormwater is periodically pumped from the MCB, treated to remove elevated metal concentrations, and total suspended solids, and then discharged into the Ash Bypass Basin.

3.0 ASSUMPTIONS

There are no assumptions in this document that require verification.

4.0 HYDROLOGIC AND HYDRAULIC ASSESSMENT

The inputs for the latest hydrologic and hydraulic calculations performed for the MCB were reviewed to determine if changes have occurred since these previous calculations. No changes were identified thereby resulting in no impact on the results and conclusions of the previous calculations. Hydrologic and hydraulic calculations performed for previous inflow design flood control system plan is considered valid.

5.0 CONCLUSIONS

Based on results of the 2026 impoundment inspection and review of the previous inflow design flood control system plans, the MCB has adequate hydraulic capacity to retain the 1,000-year flood event without water discharging from or overtopping the pond berms. Therefore, provided the Station maintains a current operation resulting in low water levels, the MCB can collect and control the inflow design flood event specified in Section 845.510.

6.0 LIMITATIONS AND CERTIFICATION

This inflow design flood control system plan was prepared to meet the requirements of 35 IAC Section 845.510 and was prepared under the direction of Mr. M. Dean Jones, P.E.

By affixing my seal to this, I do hereby certify to the best of my knowledge, information, and belief that the information contained in this report is true and correct. I further certify I am licensed to practice in the State of Illinois and that it is within my professional expertise to verify the correctness of the information. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Seal:



Signature: _____

Name: M. Dean Jones, P.E.

Date of Certification: October 21, 2026

Illinois Professional Engineer No.: 062-051317

Expiration Date: November 30, 2027